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December 16, 1985

Centex Construction Company, Inc.
2947 Gallows Road
P. O. Box 427
Merrifield, Virginia 22116

Subject: GS-11B-19066, Bid Package No. 2, Headquarters Building,
CIA Headquarters Expansion, Langley, Virginia, Structural
Steel and Deck Delay Claim, Centex P-61, CE #35

Gentlemen:

In connection with the above subject and our ongoing discussions regarding same, we are in receipt of the architect's letter of December 11, 1985 with attachment (pages 1 through 15) summarizing their review of your "claim" letter of September 18, 1985.

Your review of SH&G's (attached) findings and any appropriate comments that you may want to be included for record. Parenthetically and subsequent to our meeting of December 10, 1985, and we have also requested that SH&G review your structural steel fabricator's latest position.

Sincerely,

Arthur J. Carucci
Arthur J. Carucci
Project Manager
Headquarters Expansion Project

AJC:nj

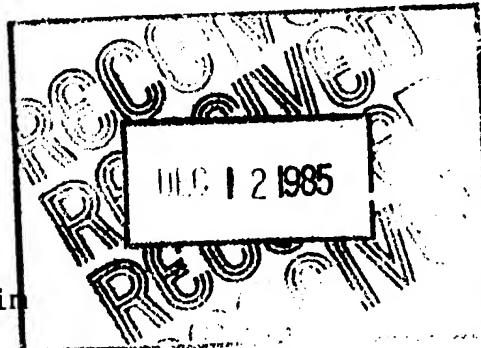
Attachments

SH&G

ANIC
12-13December 11, 1985
13155

Central Intelligence Agency
New Building Project Office
Room 1J45
CIA Headquarters Building
Washington, D.C. 20505

Attention: Mr. Art Carlucci

Re: Structural Steel and Deck Delay Claim
Log 1105

Gentlemen:

We have reviewed in detail all information submitted by your letter of September 18, 1985, regarding Structural Steel and Deck Delay Claim. The attached report responds to each of the contractor's and subcontractor's claims. A brief summary of our findings is in order.

1. The shop drawing review dates presented by Bristol Steel on August 14 are incorrect because they measure the review time from the date they released an initial submittal to Centex and received the final approval back in their office. This is not in accordance with Specification Section 01340, Lines 14-16, which measures the review time from the date of receipt by the contracting officer (or SH&G) to the date Centex receives the submittal back. Not a single submittal or resubmittal by Bristol exceeded the contract guidelines.
2. The metal deck shop drawings are some of the worst we have ever seen. The standard details were not adhered to, the composite deck studs were not shown on the initial submittals even though the shop drawing sheet titles were "Deck Placing Plan and Stud Layout Plan" and numerous dimensional errors were made which we attempted to correct to expedite the contractor's resubmittal. While we made some errors in our dimensional corrections, which we caught in the resubmittals, CSI made numerous errors and we cannot understand why Consolidated Systems, Inc. did not catch at least some of these errors before making the resubmittals. In fact, had it not been for SH&G, the errors generated by both CSI and SH&G would never have been identified. It appears CSI did very little, if any, checking and coordination of their drawings.

Smith, Hinchman & Grylls Associates, Inc. 455 West Fort Street Detroit, Michigan 48226 313 964-3000 810 221-9463 Telex
Architects Engineers Planners
A Member of The Smith Group Inc.

Mr. Art Carlucci
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3. Many of the submittals made by CSI for metal deck work were resubmitted two or three times to add more details to the project. The same applies to Bristol for structural steel work.
4. CSI's production schedule, transmitted by Bristol Steel's August 19, 1985 letter, clearly shows their production schedule starting on May 6, 1985 could not be met if their first submittals to SH&G were not even received in our office until May 15, 1985. Similar other production vs. shop drawing submittal discrepancies exist. The first CSI submittals took almost 30 days to get to SH&G. The contractor is responsible for delays such as this.
5. The contractor apparently did not provide in the CPM any time for resubmittals. While the structural steel and metal deck submittals are critical we believe a project of this size and complexity should include in its CPM schedule an allowance for such occurrences. Overall, the number of resubmittals in this claim does not seem extraordinary although we all wish no resubmittals were ever required.
6. Palmetto Detailers contacted SH&G if they had any questions, however CSI detailers never coordinated with SH&G on any problems. Any structural steel revisions made by SH&G were verbally confirmed with Mr. Don Only of Palmetto Detailers before noting the revision on the shop drawing, therefore, all SH&G revisions to shop drawings had the contractor's concurrence.
DON ONLY *AC*
7. The determination of marking shop drawings with Code 2, "Approved as Noted," or Code 3, "Revise and Resubmit," is judgmental and is the responsibility of the checker. Some of the drawings that were marked Code 2 could have been Code 3 and visa versa.
8. The shop drawings that were marked Code 3, "Revise and Resubmit," should have been resubmitted sooner and noted very urgent if they were in fact part of an area that had critical fabrication and shipment schedule. SH&G has been very co-operative in this regard and would attempt to reduce the checking and turn around time if requested by the contractor as has been done on some submittals on this project. We must be notified of the need by the contractor because we are not aware of the contractors fabrication or installation schedule.

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9. Identifying the scope of the submittal would be very helpful in expediting the processing of shop drawings. For example, the Metal Floor Deck Specifications requires shop drawings for both the metal deck and shear studs. In the meeting of November 26, 1985, at the field office, SH&G found out that CSI was providing the metal floor deck only. The studs were by another subcontractor. Centex should have identified that the shop drawings were submitted for metal floor deck only if that was the intent. The approval will then be "approved for metal floor deck only, submit shop drawings for shear stud connectors".

Several general comments need to be made about shop drawings as a result of this claim.

1. Centex obviously did not review Bristol's claim before submitting it to the government because the shop drawing review period was adhered to by SH&G, but Bristol did not even understand the contract requirements - we hope Centex knows these requirements. Centex' review and rejection of the obvious contractual misunderstandings of the contract would have minimized the review work we had to do.
2. The claim due to SH&G's misdimensioning some shop drawing in an attempt to expedite the resubmittal, although the subcontractor never caught SH&G's errors, has led us to a position of identifying the contractor's errors but we will no longer show the corrected dimension. On critical or serious contractor mistakes this will require us to mark many more submittals Code 3, "Revise and Resubmit," rather than Code 2 "Approved as Noted".
3. Specification Section 01310 requires by 60 days after Notice to Proceed, a schedule of submitting all shop drawings. If we had this schedule, most likely we could have very easily shown how late the Bristol and CSI submittals were, although their own records show they were late making submittals. We still need the submittals schedule for future use and we again suggest the government request Centex to provide everything listed in our February 22, 1985, Log 866 letter.

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4. Additional steel, warranting a CE, has been identified by SH&G to GSA and a CE has been issued. GSA should identify which structural steel items in this claim have already been covered by a CE.
5. We have not received the Centex CPM so we can not respond to the Centex claim for extension of time other than to say the subcontractors claim appears unjustified therefore Centex' claim should also be unjustified.
6. Your September 16, 1985 letter requested Centex provide further information to clarify their claim. We have not received any of that information yet.

We are available for further discussion on this matter if you need assistance.

Very truly yours,

Everett Medding
Wm. Everett Medding, AIA
Project Manager

WEM:jeb
enclosures - pages 1 - 15

STAT

cc: w/enclosures

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SH&G COMMENTS TO BRISTOL STEEL'S LETTER TO CENTEX
REGARDING "DECK DRAWING SUBMITTAL" DATED AUGUST 19, 1985

Four shop drawing submittals were made for the metal deck and stud layout as follows:

<u>SUBMITTAL</u>	<u>DRAWING NUMBER</u>	<u>DATE RECEIVED</u>	<u>DATE RETURNED</u>
I	1, 1a, 2 thru 15	5-16-85	5-31-85
II	1, 1a, 1b, 2 thru 6	6-18-85	7-02-85
III	1, 1a, 1b, 7 thru 17	7-03-85	7-18-85
IV	2 thru 7	7-24-85	8-07-85

See SH&G Shop Drawing Record for Metal Floor & Deck and Steel Layout which indicate actual review dates and approval code for these shop drawings. All submittals were reviewed within the time limits outlined in Specification Section 01340 Lines 14-16. Note SH&G's drawing submittal records do not agree with Bristol.

The following is SH&G's response to each drawing mentioned in the letter:

DRAWING NO. 1 - SECTIONS

Initial Review

- Section 7 is correct as detailed.

Approval Code 2

Second Review

- Section 13 - indicated closure plate because steel channel is 1-1/2" above beam.

Approval Code 2

Architectural Comment

- Approval Code 2 will not affect metal deck production. Resubmittal is not necessary for Code 2 approval.

DRAWING 1a SECTIONS

Initial Review

- Section 26 is corrected by SH&G.

Approval Code 2

Second Review

- Section 18 - SH&G added note for coordination purposes only.
- Sections 30, 31 and 32 added by CSI.

Approval Code 2

Architectural Comments

- Drawing was resubmitted because Sections 30, 31 and 32 were added by CSI.
- A third submittal was made because Sections 33 and 34 were added by CSI.
- Approval code 2 did not require resubmittal and will not affect deck production.

DRAWING NO. 2 - FIRST FLOOR AREA E & F FLOOR DECK PLACING PLAN
AND STUD LAYOUT PLAN

Initial Review

- Stud layout plan was incomplete.

Approval Code 3

Second Review

- Lengths of deck between Column Lines 12a-14 East of Column Line E2 were corrected.
- CSI added plan layout of floor openings.
- Floor openings dimensions were found incorrect.

Approval Code 3

Architectural Comment

- The drawing was submitted by CSI for floor deck placing and stud layout as indicated by the drawing title. It was rejected by SH&G when the stud layout was found incomplete.
- Incorrect length of deck noted by SH&G.

DRAWING NO. 3 - SECOND AND THIRD FLOOR AREA E & F FLOOR DECK PLACING
PLAN AND STUD LAYOUT PLAN

Initial Review

- SH&G note on stud count west of Column Line E should not have been placed on drawing.
- Between Column Lines B-3 and 12-15, the number of pieces were found incorrect.
- A CSI note at Column 15 said "See Detail N, Sheet 8." There was no detail N on Sheet 8.
- CSI error in stud count was found by SH&G.
- A stud placing plan detail was not submitted.
- SH&G mismarked deck length but corrected it on second submittal.

Approval Code 3

Second Review

- SH&G suggested to eliminate slab forming at Column Lines 12, 14 and 15 between Column Lines B-3 and at Column Line 13 between C-E length of deck was made 27'-0" (edges of floor openings). Extending the deck to edges of openings will eliminate slab forming providing savings to contractor.

Approval Code 3

Architectural Comment

- The drawing was rejected because the stud placing plan detail (Drawing 16) was not submitted with the initial submittal received May 16, 1985. Drawing 1b was received on June 18, 1985. If the shop drawings were intended to be submitted for metal floor deck only, it should have been so stated.

DRAWING 4 - ATRIUM SECOND & THIRD FLOOR DECK PLACING PLAN AND STUD
LAYOUT PLAN

Initial Review

- CSI errors in lengths and number of pieces of deck were found by SH&G.

- SH&G mismarked deck lengths but corrected it on second submittal.
- CSI stud layout plan was incomplete; none shown East of Column Line G.

Approval Code 3

Second Review

- SH&G review of the metal deck placing plan and stud layout plan indicated corrections needed to be made by CSI.

Approval Code 2

Architectural Comments

- Areas between E-F and 10b-10c and 12a - 12b are complicated for deck layout. Not enough sections to clarify the plan were provided by CSI causing Code 3 status.
- Stud layout plan was incomplete so the initial submittal was rejected.

DRAWING 5 - 4th FLOOR AREA E & F FLOOR DECK PLACING PLAN AND STUD LAYOUT PLAN

Initial Review

- CSI stud layout plan was incomplete.
- CSI errors in number of pieces were found.
- SH&G mismarked deck lengths but corrected it on second submittal.

Approval Code 3

Second Review

- A second review of the metal deck placing and stud layout plan indicated corrections were required but Code 3 was placed on this drawing to make sure all corrections were made.

Approval Code 3

Architectural Comments

- Stud layout plan was incomplete so the initial submittal was rejected.

- Corrections were made to the metal deck placing and stud layout plan. The second submittal was approved Code 3 because SH&G wanted to be sure the corrections were made prior to metal deck production and stud placing.

**DRAWING 6 - FOURTH FLOOR ROOF AREA E & F - FLOOR DECK PLACING PLAN
AND STUD LAYOUT PLAN**

Initial Review

- Stud layout plan was incomplete and stud count was incorrect in certain beams.
- Section Y-Y is correct as detailed (SH&G mistake).

Approval Code 3

Second Review

- Stud counts were corrected and missing studs indicated.
- Dimensions showing RF shield penetration through metal deck were indicated to agree with architectural drawings. Deck penetration will affect plan layout of deck.

Approval Code 3

Architectural Comments

- Stud layout plan was incomplete and incorrect in certain beams so the initial submittal was rejected.
- Stud count was corrected and RF shield dimensions indicated the second submittal was approved Code 3 to be sure the drawing corrections were made.

GENERAL COMMENTS

The shop drawings were reviewed for floor deck placing and stud layout as the drawing titles indicated. There were no notes in either the letters of transmittal or the shop drawings indicating that the submittals were for metal deck only. Approval Code 2, "Approved as Noted" cannot be justified where the stud layout plans were incomplete and/or incorrect for this critical structural building element.

Errors were found in the floor deck placing plans and SH&G made some mistakes in checking the same. SH&G, not the contractor, corrected all SH&G mistakes on a subsequent submittal. The mistakes were made in the atrium areas where the deck layout was most complicated. This area, however, represented about 13 percent of the total metal deck required for this project.

The shop drawings were poorly done, incomplete and with numerous mistakes. It appears that they were not checked or coordinated before they were submitted for review.

In the first submittal, certain prints and sepias did not match. In some cases, two sepias of the same drawings were received. For example:

<u>Drawing No.</u>	<u>Print</u>	<u>Sepia</u>
2	No studs shown	Some studs indicated
4	No studs shown	Some studs indicated
5	No studs shown	Some studs indicated

Drawing 13 was originally submitted as "4th, 5th and 6th Floor deck placing plan and 4th, 5th, and 6th Floor stud layout plan. On July 3, 1985, the same drawing was resubmitted as 4th Floor deck placing plan and 4th floor stud layout plan. New drawings 16 and 17 were submitted as 5th Floor deck placing and 5th Floor stud layout plans and 6th Floor deck Placing and 6th Floor stud layout plans respectively.

It was extremely difficult to establish a reasonable level of confidence in shop drawings that were so poorly prepared, incomplete and had numerous mistakes.

SH&G COMMENTS TO BRISTOL STEEL'S LETTER TO CENTEX REGARDING
"DECK FOR NORTH AND SOUTH TOWERS" DATED AUGUST 19, 1985

In most cases, the shop drawings were marked Approval Code 3, "Revise and Resubmit" because the stud layout plans were either incomplete and/or incorrect in certain beams. The shop drawings were reviewed for floor deck placing and stud layout as the drawing titles indicated. There are no notes in the letters of transmittal or the shop drawings indicating that the submittals were for metal floor deck only.

Since the floor systems were designed as composite beams with formed metal deck, the shear studs are critical elements of the composite beams and, therefore, need to be checked carefully. Drawing 1b, showing the typical plan details of the stud placing was not received until June 18, 1985. This drawing should have been submitted with the initial submittal of May 16, 1985.

A metal deck schedule was prepared using information included in the delay claim. Refer to letter from CSI to Bristol Steel dated March 29, 1985 and the rolling schedule attached. Our comments are:

1. Assuming that the shop drawings were approved on May 31, 1985 (initial review) by SH&G the manufacturer's schedule of deck approval would still be behind schedule varying from 28 days for Areas G, J to 49 for Areas E, F because deck approval was scheduled for May 3, 1985 and April 12, 1985 respectively.
2. If production and delivery of metal deck are directly related to the manufacturer's deck approval dates, then production and delivery would be delayed by the same amount of time.
3. The alleged delays are, therefore, not the fault of the review process but due to the late submittals of shop drawings for review and the lack of allowances in the schedule for possible resubmittals.

SH&G COMMENTS TO CSI'S LETTER TO
CENTEX REGARDING METAL FLOOR DECK
APPROVAL AND DELIVERY REQUIREMENT
DATED AUGUST 9, 1985

Item 1 Drawing 6 - Corrected stud layout plan to agree with design drawings.

Item 2 Drawing 6 - Sec. Y-Y is correct as detailed. SH&G review mistake will not affect deck production.

Item 3 Drawing 2 - Corrected dimensions of openings to agree with design drawings.

Item 4 Drawing 7 - Number of studs were revised by SH&G.

Item 5 Drawing 8

- Deck lengths and dimensions were incorrect as detailed.
- SH&G made mistake in checking same in initial submittal.
- SH&G corrected both in 2nd review.

Item 6 Drawing 10 - SH&G corrected stud layout plan to agree with design drawings.

Item 7 Drawing 13 - SH&G corrected edge of slab dimension and stud layout plan to agree with design drawings.

Item 8 Drawing 1 - Section 7 was correct as detailed (SH&G mistake). Approval code is 2 not 3.

Item 8a Drawing 2 - SH&G corrected dimensions to agree with design drawings.

Item 9 Drawing 5 - CSI errors in number of pieces were found by SH&G. Stud layout plan was incomplete. Mistake in checking lengths were made by SH&G.

Item 10 Drawing 6 - See response under Items 1 and 2.

Item 11 Drawing 12 - SH&G corrected dimensions to agree with design drawings. SH&G corrected lengths of deck.

Item 12 Drawing 15 - SH&G added note "Indicate Ventilator Openings and Exhaust Stack Openings" because it will affect metal deck placing plan.

Item 13 Drawing 1a, Sections 26A and 29A added by CSI to clarify end detail of metal deck. Approval Code 2 and not 3.

Item 14 Drawing 8 - See response under Item 5.

Item 15 Drawing 9 - SH&G corrected dimension to agree with design drawings corrected deck length. Approval Code 2 and not 3.

Item 16 Drawing 10 - Between Column Lines 1 and 2 above "K" line and between 25 and 26 above "K" line, no metal deck is required. A CE was issued for this revision. SH&G corrected stud layout plan to agree with design drawings. Approval Code 2 and not 3.

A brief summary of the above itemized comments are as follows:

- Item Nos. 8, 13, 15 and 16 were approved as noted, Code 2 and not revise and resubmit, Code 3.
- Item Nos. 1, 3, 5, 6, 7, 8a, 9, 10, 11, 12, 15 and 16 CSI did not comply with the design drawings and were marked approval Code 3.
- Item No. 4 - Number of studs were revised by SH&G.
- Item No. 16 - A Change Order, CE, was issued to delete metal deck at K-line between 1-2 and 25-26 respectively.
- Item Nos. 2, 5, 8 and 9 - SH&G made mistakes in checking the shop drawings but these were corrected in subsequent reviews.

Note that 12 of the 16 items listed did not comply with the design drawings and had to be marked revise and resubmit.

For only 4 of 16 items listed was SH&G incorrect in checking the shop drawings. Items 2 and 8 did not affect metal deck production. Items 5 and 9 contained CSI mistakes as well as SH&G mistakes.

The alleged delay was due to the inaccuracy of the shop drawing and late submittal not the review process. SH&G marked the corrections in order to speed up the resubmittal.

JOB TITLE: 01A

MATERIALS, FL. DECK & STUDS

SHOP DRAWING RECORD Manufacturer CS1

Mfr. Job No.

SH&G File No. 13/4574

Legend: 1 = Approved; 2 = Approved as Noted; 3 = Revise & Resubmit; 4 = Not Approved

All Dates are 19		1st. Submission				2nd.				3rd.				4th.						
Sheet No.	Description	Status Rec'd	Date Rec'd	Date Ret'd	Ck.	Inl.	Status Rec'd	Date Rec'd	Date Ret'd	Ck.	Inl.	Status Rec'd	Date Rec'd	Date Ret'd	Ck.	Inl.	Status Rec'd	Date Rec'd	Date Ret'd	Ck.
1	SECTIONS	2	5/16	5/31	LH		2	6/18	7/02	JS		2	7/03	7/12	JS					
1A	SECTIONS	2	5/16	5/31	LH		2	6/18	7/02	JS		2	7/03	7/12	JS					
1B	DETAILS OF STUD PLACEMENT	1	6/18	7/02	JS		1	7/03	7/12	JS										
2	1ST FL. AREA 1 PLACEMENT PLANS FL. DECK LAYOUT PLANS	3	5/16	5/31	LH		3	6/18	7/02	JS		2	7/03	8/7	NA					
3	2ND FL. AREA 2 PLACEMENT PLANS FL. DECK LAYOUT PLANS	3					3					2	7/04	8/7	NA					
4	3RD FL. AREA 3 PLACEMENT PLANS FL. DECK LAYOUT PLANS	3					2					2	7/04	8/7	NA					
5	4TH FL. AREA 4 PLACEMENT PLANS FL. DECK LAYOUT PLANS	3					2					2	7/04	8/7	NA					
6	4TH FL. AREA 5 PLACEMENT PLANS FL. DECK LAYOUT PLANS	3					3	6/18	7/02	JS		2	7/04	8/7	NA					
7	5TH FL. AREA 6 PLACEMENT PLANS FL. DECK LAYOUT PLANS (A-D & G-L)	3					2	7/3	7/12	JS		2	7/04	8/7	NA					
8	DETAILS A, B, C, D, E, F & P	3					2													
9	DETAILS J, K, L, M, N & S, T, U, V, W, X, Y, Z	2					2													
10	5TH FL. DECK PLACEMENT PLANS FL. DECK STUD LAYOUT PLANS (A-D & G-L)	3					2													
11	6TH FL. DECK PLACEMENT PLANS FL. DECK STUD LAYOUT PLANS (A-D & G-L)	3					2													
12	DETAILS N, O, P	2					3													
13	4TH FL. DECK PLACEMENT PLANS 4TH FL. STUD LAYOUT PLANS (A-D & G-L)	3					2													
14	5TH FL. DECK PLACEMENT PLANS FL. DECK STUD LAYOUT PLANS (A-D & G-L)	3	↓	↓	↓	↓	2	↓	↓	↓	↓									
15	6TH FL. DECK PLACEMENT PLANS	3	5/16	6/16	LH		3	7/3	7/12	JS										

JOB TITLE:

SHOP DRAWING RECORD Manufacturer _____ Mfr. Job No. _____ SH&G File No. _____

Legend: 1 = Approved; 2 = Approved as Noted; 3 = Revise & Resubmit; 4 = Not Approved

All Dates are 19

General Work Sheet

SH&G

Smith, Hinchman & Grylls
Associates, Inc.
Architects Engineers
Planners455 West Fort Street
Detroit, Michigan 48226
313/964-3000

Subject _____ Date _____ Project No. _____

Drawn By _____

METAL DECK

SCHEDULE

SEQUENCE AREA	DECK APPROVAL	PRODUCTION	DELIVERY	SHOP DRAWING REVIEW		
				REC'D	RET.	REC'D
1 AREA F	4-12	C/5-C/7	C-14	5-16	5-31	C-18
2 E	4-12	C/25-C/27	C-28	5-16	5-31	C-18
3 D	4-19	6/25-6/27	7-12	5-16	5-31	7-3
4 B	4-19	7/17-7/19	7-26	5-16	5-31	7-3
5 H	4-26	7/17-7/19	8-2	5-16	5-31	7-3
6 K	4-26	8/7-8/9	8-16	5-16	5-31	7-3
7 G	5-3	8/7-8/9	8-23	5-16	5-31	7-3
8 A	5-3	8/28-8/30	9-6	5-16	5-31	7-3
9 G	5-10	8/28-8/30	9-13	5-16	5-31	7-3
10 J	5-10	8/28-8/30	9-20	5-16	5-31	7-3

Bristol Steele

AND IRON WORKS, II.

August 14, 1935

Centex Construction Co., Inc.
P. O. Box 6510
McLean, Virginia 22106-6510

ATTN: Mr. John Milhausen

Re: CIA Headquarters Expansion
Langley, Virginia
ES&IW Contract 1814

Dear Mr. Milhausen:

The following drawings on Divisions 1 through 6 required resubmittal (the dates are dates of transmittal or receipt by Palmetto Detailers):

Drawing Number	DATE REC'D.	Off for Approval	Returned from Approval	DATE REC'D.		DATE REC'D.		Days for Approval	DAYS OF APPROVAL
				RETURNED	RE-SUBMIT FOR APPROVAL	RETURNED	RE-SUBMIT		
7	04/06/85	4/10	05/02/85	4/25	05/07/85	5/14	05/31/85	5/27	22
10	04/06/85	4/12	05/02/85	4/25	05/07/85	5/14	05/31/85	5/27	22
19	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	06/14/85	5/31	14
24	04/26/85	4/10	05/02/85	4/25	05/07/85	5/14	05/31/85	5/27	22
28	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	05/14/85	5/31	14
34	04/06/85	4/10	05/02/85	4/25	05/07/85	5/14	05/31/85	5/27	22
37	04/06/85	4/10	05/02/85	4/25	05/07/85	5/14	05/31/85	5/27	22
55	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	06/14/85	5/31	19
65	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	06/14/85	5/31	19
94	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	06/14/85	5/31	19
96	04/12/85	4/23	05/10/85	5/2	05/14/85	5/21	06/14/85	5/31	19
99	04/19/85	4/26	05/22/85	5/14	05/31/85	6/10	06/19/85	6/11	23
132	04/19/85	4/26	05/22/85	5/14	05/31/85	6/10	06/19/85	6/11	23
136	04/19/85	4/26	05/22/85	5/14	05/31/85	6/10	06/19/85	6/11	23
141	04/19/85	4/26	05/22/85	5/14	05/31/85	6/10	06/19/85	6/11	23
33	04/26/85	4/10	05/22/85	5/14	05/31/85	6/10	06/19/85	6/11	23
137	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
167	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
175	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
208	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
209	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
210	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
219	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
233	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
239	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14
270	05/03/85	5/10	05/30/85	5/20	06/14/85	6/21	07/01/85	6/25	14

BRUNSWICK - POST CARD BY HAG, 1900-1910

DATE LITERATURE - DATE RECEIVED FROM, DATE RECEIVED BY LIBRARIAN

Notes on the - Geological Survey of Canada.

RELIABLE STRUCTURAL STEEL SERVICE SINCE 1900

SH&G COMMENTS TO BRISTOL STEEL'S LETTER TO CENTEX
REGARDING STRUCTURAL STEEL SHOP DRAWINGS DATED AUGUST 14, 1985

1. The tabulated "Days of Approval" are for two submittals. They are within the guidelines of the specifications; Section 01340, Lines 15 - 17; Three weeks per submittal. There is a big time difference between Bristol Steel "Days for Approval" and SH&G "Days of Approval." SH&G is only accountable for the time spent in checking the shop drawings. Refer to schedule attached.
2. SH&G processed 650 detailed shop drawings of which 26 were approved Code 3 "Revise and Resubmit"; 96% efficiency. SH&G commends Palmetto Detailers for a job well done.
3. The following are SH&G's response to each drawing:
 - a. Drawing No. 7 - BM marked 7A1RL - The connection at one end will not work as detailed because it will interfere with the bottom flange of the W21X50 BM.
 - b. Drawing No. 10 - The end connection of 7A1RL to 10B3RL had to be corrected to receive 7A1RL.
 - c. Drawing No. 19 - SH&G revised the beam elevation of BM 19B6 (8W10) from +10 1/2" to 0" which changed the end connection from bearing to web shear.
 - d. Drawing No. 24 - Two pieces of BM 24B5, and two pieces of BM 24B6 required one - 4 hole connection. The two pieces of BM 24B5 and BM 24B6 requiring one 4 - hole connection became 24B7 and 24B8 respectively.
 - e. Drawing No. 28 - The bearing connection of BM 28B1RL to BM 33B5 is a better and simpler connection.
 - f. Drawing No. 34 - The end connections did not comply with approved typical detail TD-3, detail 7. SH&G indicated holes to agree with typical detail on TD-3.
 - g. Drawing No. 37 - The end connections did not comply with typical detail TD-3, detail 9. SH&G indicated spiffner plate to agree with typical detail on TD-3. *t*
 - h. Drawing No. 55 - Make the end connection of BM 55B5 similar to BM 55B2 to provide a better connection.

- j. Drawing No. 65 - Connection detail of BM 19B1RL was not acceptable. A simpler and better connection detail was suggested by SH&G and accepted by Palmetto.
- k. Drawing No. 94 - Connection detail of BM 28B1RL was not acceptable. A simpler and better connection detail was suggested by SH&G and accepted by Palmetto.
- l. Drawing No. 96 - Make end connection to agree with detail on drawing 139C1.
- m. Drawing No. 99 - End connection details not acceptable. The suggested details are simpler and better. 99B4 material is corrected and not changed. See erection drawing E-11.
- n. Drawings 132, 136, 139 and 141 - Connection details corrected to agree with details shown elsewhere.
- o. Drawing 33 - Connection detail not acceptable. Suggested to frame 33B5 to Column and bear 28B1 on 33B5.
- p. Drawing 137 - To eliminate confusion in paperwork. Verbal approval confirmed per telephone message to Palmetto Detailers.
- q. Drawings 167, 171, 175, 208, 209, 210, 219, 288, 289 and 290 - End connection detail was rejected because no typical detail for one angle connection was submitted for approval. Palmetto Detailers were notified by telephone about this problem. SH&G suggested that Palmetto Detailers either submit typical detail for single angle connection for approval or use the approved tab plate connection detail. Palmetto agreed to use the tab plate connection detail.
- 4. Revisions and/or changes alleged by Bristol Steel are actually corrections in order to comply with the approved typical details and conform to the structural design intent. The corrections were sketched in the shop drawings in order to speed up resubmittal because of the urgency of the schedule. Furthermore, Palmetto Detailers were informed by telephone and agreed to the corrections.
- 5. Verbal requests and approval were made with the understanding that the shop drawing in question must be resubmitted to confirm the verbal agreement.
- 6. The statement made by Bristol steel of non-cooperation from the architect is unfair, irresponsible and not justified.